**DESCRIPTION AND RATING**

The 6BG6-GA is a beam-power pentode designed primarily for use as the horizontal-deflection amplifier in television receivers. Electrically and physically, the 6BG6-GA is a replacement for the 6BG6-G; the 6BG6-GA differs primarily from the 6BG6-G by employing a straight-sided T-12 envelope. Except for heater ratings, the 19BG6-GA is identical to the 6BG6-GA.

**GENERAL**

**ELECTRICAL**
- Cathode—Cooled Unipotential
- Heater Voltage, AC or DC: 6.3 18.9 Volts
- Heater Current: 0.9 0.3 Amperes
- Direct Interelectrode Capacitances, approximate*:
  - Grid-Number 1 to Plate: 0.8 µF
  - Input: 11 µF
  - Output: 6.0 µF

**MECHANICAL**
- Mounting Position—Vertical
- Envelope—T-12, Glass
- Base—58-110, Short Medium Shell Octal 8-Pin
- Top Cap—C1-1, Small

**MAXIMUM RATINGS**

**HORIZONTAL-DEFLECTION AMPLIFIER SERVICE:**
DESIGN CENTER VALUES UNLESS OTHERWISE INDICATED
- DC Plate-Supply Voltage (Boost+DC Power Supply): 700 Volts
- Peak Positive Pulse Plate Voltage: 6500 $^+$ Volts
- Peak Negative Pulse Plate Voltage: 1500 Volts
- Screen Voltage: 350 Volts
- Peak Negative Grid-Number 1 Voltage: 200 Volts
- Plate Dissipation: 20 Watts
- Screen Dissipation: 3.2 Watts
- DC Cathode Current: 110 Milliamperes
- Peak Cathode Current: 400 Milliamperes
- Heater-Cathode Voltage: 125 Volts
- Heater Positive with Respect to Cathode:
  - DC Component: 100 Volts
  - Total DC and Peak: 200 Volts
- Heater Negative with Respect to Cathode:
  - Total DC and Peak: 200 Volts
- Grid-Number 1 Circuit Resistance: 0.47 Megohms
- Bulb Temperature at Hottest Point: 210 °C

**PHYSICAL DIMENSIONS**
### CHARACTERISTICS AND TYPICAL OPERATION

#### AVERAGE CHARACTERISTICS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plate Voltage</td>
<td>60</td>
<td>250 Volts</td>
</tr>
<tr>
<td>Screen Voltage</td>
<td>250</td>
<td>250 Volts</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage</td>
<td>0Δ</td>
<td>-15 Volts</td>
</tr>
<tr>
<td>Plate Resistance, approximate</td>
<td></td>
<td>25000 Ohms</td>
</tr>
<tr>
<td>Transconductance</td>
<td></td>
<td>6000 Micromhos</td>
</tr>
<tr>
<td>Plate Current</td>
<td>180</td>
<td>75 Milliamperes</td>
</tr>
<tr>
<td>Screen Current</td>
<td>18</td>
<td>4.0 Milliamperes</td>
</tr>
<tr>
<td>Grid-Number 1 Voltage, approximate</td>
<td></td>
<td>-45 Volts</td>
</tr>
<tr>
<td>I&lt;sub&gt;b&lt;/sub&gt; = 1.0 Milliamperes</td>
<td></td>
<td>8.0</td>
</tr>
</tbody>
</table>

* Without external shield.

† Horizontal operation is permitted if pins 2 and 7 are in a vertical plane.

‡ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

§ Value given is to be considered as an Absolute Maximum Rating. In this case, the combined effect of supply-voltage variation, manufacturing variation including components in the equipment, and adjustment of equipment controls should not cause the rated value to be exceeded.

¶ In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

△ Applied for very short interval so as not to damage tube.

♦ Triode connection (screen tied to plate) with Eb = Ec2 = 250 volts and Ec1 = -15 volts.